

Remarks

This paper is in response to the Final Office Action mailed July 5, 2007, with reference to the above identified application.

Claims 1 to 17 are pending in this application.

Claims 1 to 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art and in view of Johnson et al. (US 2004/0120706) and further in view of Sugawara et al. (US 2004/0165618). Reconsideration is requested.

The invention relates to a optical communications network in which an optical path between a source node and a sink node traverses more than one network, i.e. a network and a sub-network. The sub-network has a tandem connection monitoring system for monitoring bit errors and path faults which are introduced in the sub-network.

The novel features of the invention are specifically concerned with the monitoring of path faults, such as fiber cuts, by the tandem connection monitoring system.

In a conventional tandem connection monitoring system, i.e. the admitted prior art, indications of bit errors and path faults are conveyed within the sub-network as error information. This error information may include a first alarm indication indicative of an incoming fault (the "incoming AIS" - IEC code 1110 - as shown in Figure 2 of the present application). Alternatively, the error information may include a second alarm indication indicative of a fault within the sub-network (the "path AIS" - all 1's in the data and pointers - as described at page 4, lines 17 and 18 of the present application).

In the conventional system, an arrangement at a second edge of the sub-network (the TCM sink 22 shown in Figure 1) replaces the first alarm indication (the "incoming AIS" - IEC code 1110) with a fault indication (the

"path AIS" - all 1's in the data and pointers), as described at page 4, lines 11 and 12 of the present application), for onward transmission.

In the conventional system, the arrangement at the second edge of the sub-network also replaces the second alarm indication (the "path AIS" - all 1's in the data and pointers) with the fault indication (the "path AIS" - all 1's in the data and pointers), as described at page 4, line 19 of the present application, for onward transmission.

Examiner will appreciate that, in the conventional system, the second alarm indication and the fault indication are identical. In particular, they are each in the form of a path AIS represented by all 1's in the data and pointers.

The invention differs from the conventional system in that the second alarm indication, as used to indicate a fault within the sub-network, is different from both the first alarm indication used to indicate an incoming fault and the fault indication used for the onward transmission of alarm indications.

The Examiner seems to consider that this novel feature of the invention is disclosed by Johnson et al. and by Sugawara et al. Applicant respectfully disagrees.

Johnson et al. discloses an optical network in which each node comprises a hard fault monitor (see Figure 6). When the fault monitor detects a fault, end nodes of a number of channels are identified, and an alarm signal sent to the end nodes is conditioned to a lower severity (paragraph [0086]).

However, Johnson et al. fails to provide any suggestion that different alarm indications could be used within a sub-network to indicate incoming and internal faults, and that these indications could be replaced with a common fault indication, different from the alarm indications, at the edge of the sub-network, as is provided by the invention.

Applicant notes that Examiner has observed, at page 3 of the Office Action, that Johnson et al. discloses a second alarm indication indicative of a

fault in the form of "generating an AIS signal in the signal overhead, when a fault is detected; (paragraph 34)". However, if this is correct, then it is no different from the system of the admitted prior art in which both the second alarm signal and the fault signal are an AIS signals.

There is simply nothing in Johnson et al. which would have rendered it obvious for the person of ordinary skill in the art to have adapted the system of the admitted prior art so that the first and second alarm signals and the fault signal were different from one another, as is provided by the invention.

Sugawara et al. is concerned with the monitoring of accumulated bit errors, and this is clearly apparent from the passages cited by Examiner at page 4 of the Office Action. In contrast, as mentioned above, the invention is specifically concerned with the monitoring of path faults, such as fiber cuts, which is a process carried out at the same time as bit error monitoring.

The teaching of Sugawara et al. is therefore not relevant to the invention, since it does not teach the skilled person how to provide alarm signals indicative of path faults, as provided by the invention.

It is therefore respectfully submitted that independent claims 1, 8, 15 and 17, as cast, are patentably distinguished from the cited prior art.

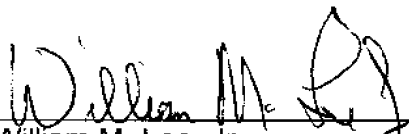
With specific regard to Examiner's comments in paragraph 6 of the Office Action, Applicant respectfully disagrees: The independent claims recite that the tandem connection monitoring arrangement provides error information in the form of a first alarm indication indicative of an incoming fault (i.e. an external fault) or a second alarm indication indicative of a fault identified within the sub-network (i.e. an internal fault). Further, the independent claims recite that these alarm indications are different. The claims therefore patentably distinguish from the prior art.

Detailed arguments are not presented in respect of the dependent claims, since the relevant objections are no longer considered pertinent. Nevertheless, the arguments of the Examiner are not accepted.

It is submitted that this application is now in condition for allowance.
Such action is respectfully solicited.

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Respectfully submitted,



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